

Remarks/Arguments:

Claim 78 has been amended. No new matter is introduced herein. Claims 78-80 and 82-85 are pending.

Claims 78-80 and 82-85 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Yamamoto et al. (U.S. Pat. No. 5,303,247) in view of Rakuljic et al. (U.S. Pat. No. 5,691,989) and further in view of Huber (U.S. Pat. No. 5,295,209). It is respectfully submitted, however, that these claims are now patentable for the reasons set forth below.

Claim 78, as amended, includes features neither disclosed nor suggested by the cited art, namely:

... the optical wavelength conversion element is formed of a stable proton exchange layer whose refractive index does not vary with time during operation ... (Emphasis Added)

These features are disclosed, for example, at p.27, lines 1-26; p.30, line 30 - p.31, line 27; p.33, line 27 - p.34, line 13; Figs. 8a-8e, 9, 12, 13; and generally described in Examples 1-6 on p.27, lines 31 - p.48, line 28 of the original specification.

Yamamoto et al. disclose, in Fig. 15, a shorter wavelength generating apparatus 51 including a semiconductor laser source 52 and an optical harmonic generating device 55 for generating a harmonic wave from a fundamental wave (col. 23, lines 33-43). The optical harmonic generating device 55, shown in Fig. 16, includes reverse polarization layers 64 that are produced according to a proton exchange process (col. 23, line 66 - col. 24, line 16). Yamamoto et al. do not disclose or suggest Applicants' claimed features that "the optical wavelength conversion element is formed of a stable proton exchange layer whose refractive index does not vary with time during operation" (Emphasis Added). These features are neither disclosed nor suggested by Yamamoto et al. In addition, the Office Action at page 3 readily admits that Yamamoto et al. do not teach a semiconductor laser to be a distributed feedback type or that the output of the laser is to be amplified by a solid state source. Thus, Yamamoto et al. do not include all of the features of claim 78.

Rakuljic et al. disclose, in Fig. 21, a laser 90 that includes a distributed feedback (DFB) laser to pump an optical gain medium 91, "such as Er-doped optical fiber amplifiers, Er-doped fiber lasers or diode-pumped solid state lasers" (col. 17, lines 30-44). However, Rakuljic et al. do not make up for the features that are lacking in Yamamoto et al., namely, that "the optical wavelength conversion element is formed of a stable proton exchange layer whose refractive index does not vary with time during operation." Thus, Rakuljic et al. do not include all of the features of claim 78.

Huber discloses, in Fig. 3, a DFB laser 50 that is directly modulated with a periodic function, including an RF sine wave (col. 6, lines 30-56). However, Huber do not make up for the features that are lacking in Yamamoto et al. and Rakuljic et al., namely, that "the optical wavelength conversion element is formed of a stable proton exchange layer whose refractive index does not vary with time during operation." Accordingly, allowance of claim 78 is respectfully requested.

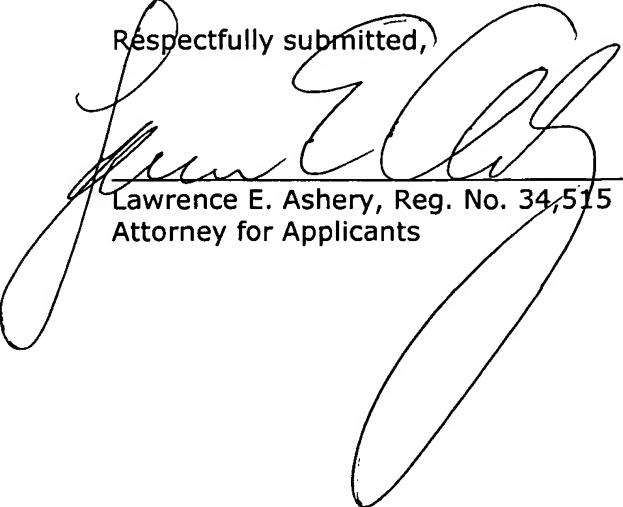
Claims 79, 80 and 82-85 include all of the features of claim 78 from which they depend. Accordingly, claims 79, 80 and 82-85 are also patentable over the cited art.

Application No.: 10/712,087
Amendment Dated: October 27, 2006
Reply to Office Action of: June 30, 2006

YAO-3750US3

In view of the amendments and arguments set forth above, the above identified application is in condition for allowance which action is respectfully requested.

Respectfully submitted,


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Dated: October 27, 2006

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FP_75606